

IN THE CLAIMS:

Please amend the claims as follows:

1. (Previously Presented) A simulation method for determining nonlinear signal distortion in an analog circuit, which is to be tested, for processing discrete multitone signals (DMT), with the simulation method comprising:
  - (a) applying a discrete multitone signal, which has a large number of uniformly spaced carrier frequencies for data transmission in a predetermined frequency range, to the analog circuit, which is to be tested, and to a digital filter;
  - (b) subtracting the output signal from the analog circuit, which is to be tested, from the output signal from the digital filter in order to produce a difference signal;
  - (c) adjusting the digital filter until the difference signal is a minimum, with the adjusted digital filter forming an equivalent circuit of the analog circuit; and
  - (d) applying the discrete multitone signal to the adjusted digital filter, with at least one carrier frequency being suppressed, for measuring the intermodulation product of the adjusted digital filter.
2. (Original) The simulation method as claimed in claim 1, wherein a multitone signal ratio is calculated from the measured intermodulation product.
3. (Currently Amended) The simulation method as claimed in claim 1 or 2, A simulation method for determining nonlinear signal distortion in an analog circuit, which is to be tested, for processing discrete multitone signals (DMT), with the simulation method comprising:
  - (a) applying a discrete multitone signal, which has a large number of uniformly spaced carrier frequencies for data transmission in a

- predetermined frequency range, to the analog circuit, which is to be tested, and to a digital filter;
- (b) subtracting the output signal from the analog circuit, which is to be tested, from the output signal from the digital filter in order to produce a difference signal;
  - (c) adjusting the digital filter until the difference signal is a minimum, with the adjusted digital filter forming an equivalent circuit of the analog circuit;
  - (d) applying the discrete multitone signal to the adjusted digital filter, with at least one carrier frequency being suppressed, for measuring the intermodulation product of the adjusted digital filter; and
  - (e) wherein a multitone signal ratio is calculated from the measured intermodulation product and wherein the adjustable modeling digital filter is a discrete-time Volterra filter, or a neural network.
4. (Currently Amended) The simulation method as claimed in ~~one of the preceding claims~~ claim 1, wherein the adjustable modeling filter is connected in parallel with the analog circuit which is not tested.
5. (Previously Presented) The simulation method as claimed in one of claims 1 or 2, wherein the adjusted modeling filter, which forms an equivalent circuit of an analog circuit, is connected to further adjusted modeling filters, which form equivalent circuits of further analog circuits, in order to generate an overall equivalent circuit for an analog overall circuit.
6. (Currently Amended) ~~The simulation method as claimed in one of claims 1 or 2,~~  
A simulation method for determining nonlinear signal distortion in an analog circuit, which is to be tested, for processing discrete multitone signals (DMT), with the simulation method comprising:
- (a) applying a discrete multitone signal, which has a large number of uniformly spaced carrier frequencies for data transmission in a

- predetermined frequency range, to the analog circuit, which is to be tested, and to a digital filter;
- (b) subtracting the output signal from the analog circuit, which is to be tested, from the output signal from the digital filter in order to produce a difference signal;
  - (c) adjusting the digital filter until the difference signal is a minimum, with the adjusted digital filter forming an equivalent circuit of the analog circuit;
  - (d) applying the discrete multitone signal to the adjusted digital filter, with at least one carrier frequency being suppressed, for measuring the intermodulation product of the adjusted digital filter; and
  - (e) wherein the analog overall circuit is a DSL-SLIC circuit.
7. (Previously Presented) The simulation method as claimed in one of claims 1 or 2, wherein the discrete multitone signals are generated in a signal generator.
8. (Previously Presented) A test arrangement for determining nonlinear signal distortion of analog circuit elements of a signal processing circuit for signal processing of DMT signals, the test arrangement comprising:
- (a) a signal generator for producing a discrete multitone signal;
  - (b) adjustable modeling filters which are each connected in parallel with an associated analog circuit element, with the signal inputs of the modeling filters and of the analog circuit elements being connected to the signal generator;
  - (c) subtraction circuits, which each subtract the output signal from a modeling filter from the output signal from the associated analog circuit element in order to form a difference signal;
  - (d) an adjustment circuit, which compares the difference signals with a nominal value and adjusts the modeling filters until the difference signals match the nominal value; and

- (e) a measurement circuit, which is connected to the outputs of the modeling filters, for measuring the intermodulation products of the adjusted modeling filters.
9. (Previously Presented) The test arrangement as claimed in claim 8, wherein the test circuit is followed by a calculation circuit for calculating the multitone signal power ratio of the output signals which are emitted from the modeling filter.